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Subject: Headlines Highlights for RA's Tablet - TUESDAY, March 4, 2014

Headlines Highlights for RA's Tablet - TUESDAY, March 4, 2014

Washington Post

EPA says gasoline sulfur rule will reduce auto emissions

By Darryl Fears / The Washington Post

WASHINGTON -- The Environmental Protection Agency on Monday rolled out a rule to further limit sulfur in gasoline, saying the action will cut auto emissions, provide welcome relief to people with breathing problems and be the equivalent of removing an estimated 33 million cars from the road.

U.S. oil refineries will be required to purchase new equipment to remove sulfur, which builds up in vehicle emission-control devices, causing more pollution. Conservationists and automakers such as Ford Motor praised the move, while a trade group that represents the oil and gas industry blasted it as an unnecessary step that will hurt consumers.

The EPA said the requirement, when fully implemented in 2025, will cost consumers less than a cent per gallon more at the pump while preventing 2,000 premature deaths a year and lowering health care costs by as much as $19 billion. EPA administrator Gina McCarthy said the new regulation is "a win for public health" and will increase the average price of a car by about $75.

But the American Petroleum Institute countered that complying with the rule, to be phased in starting in 2017, will cost $2.4 billion per year and increase gas prices by as much as 9 cents a gallon.

"This rule's biggest impact is to increase the cost of delivering energy to Americans, making it a threat to consumers, jobs and the economy," API Downstream Group director Bob Greco said. "But it will provide negligible, if any, environmental benefits. In fact, air quality would continue to improve with the existing standard and without additional costs."

Automakers welcomed the federal rule because it is close to what California already requires. That means car companies will no longer have to build one type of car, light truck and SUV for that state and different versions for the rest of the nation. "Today, the EPA took steps to harmonize regulations to improve air quality by issuing its final rule on ... tailpipe emission standards," said John Viera, Ford's director for sustainability and vehicle environmental matters.

Support from the American Lung Association was more emphatic. The group estimated that the rule will prevent 19,000 asthma attacks and 300,000 missed days of work and school by 2030.

"The standards will reduce harmful air pollutants including nitrogen oxides, carbon monoxide and volatile organic compounds. These pollutants are important precursors of ozone pollution and particle pollution," said Albert Rizzo, a past chairman of the lung association's board.

Baltimore Sun

Commentary: EPA rule could hurt Baltimore port

Enforcement of a low-sulfur fuel rule on short sea shipping could hurt the port — and the environment

The Port of Baltimore sits on the cusp of major advancements. This year marks the highly anticipated completion of an eight-year project to widen the Panama Canal, which is expected to bring a major boost in cargo shipments to Baltimore, one of only two East Coast ports capable of handling the larger ships that will soon be passing through. After visiting the canal last year, Vice President Joe Biden announced that the project could double the 100,000 jobs already supported by Baltimore's port. But amid this exciting growth, a well-intentioned but poorly designed Environmental Protection Agency regulation could very well have a disproportionate impact on a small but vital part of Baltimore's freight network: short sea shipping.

Unlike the large and iconic transoceanic ships often spotted at the port, short sea vessels transport goods by traveling shorter distances along near-shore routes between coastal ports. Short sea shipping offers Baltimore the safest and most fuel-efficient method for moving cargo

between neighboring East Coast ports and for trade with Canada, Baltimore's biggest importer. But in an effort to curb sulfur emissions reaching coastal communities, a new EPA rule, planned to go into effect in 2015, will require vessels traveling within 200 nautical miles of any North American coast to use a highly expensive, low-sulfur fuel. For most transoceanic vessels, this will only affect a small fraction of their overall voyage. But, for short sea vessels, which travel almost exclusively in this regulated zone, the rule will make shipping prohibitively expensive, likely raising coastal shipping costs by as much as 35 percent.

Not only will this burden Baltimore during an important time of growth, the regulation will also likely prove counter-productive to its own environmental objectives. Unlike international shipping, short sea vessels are in direct competition with trains and trucks. These land-based methods require more fuel and produce greater carbon emissions than short sea shipping. An uncompetitive short sea shipping industry will mean more trucks on the road, and ultimately, more carbon emissions, road congestion and urban pollutants.

Fortunately, a solution exists that achieves the EPA's objectives without incapacitating the port's ability to efficiently and environmentally move cargo along the East Coast. The forthcoming one-size-fits-all restriction doesn't account for the fact that short sea vessels are generally smaller and produce fewer emissions than their transoceanic counterparts. Emissions from short sea vessels have a negligible impact on coastal communities after reaching only 50 nautical miles offshore. So by amending its regulations to consider this important distinction, the EPA can reduce coastal sulfur emissions without sabotaging the environmental benefits of short sea shipping.

Baltimore has an opportunity to embrace new economic growth to the benefit of its industries, communities and environmental legacy. Counter-productive restrictions that seem helpful on the surface but are actually lacking in substance are not what built this thriving port and are not what will keep it successful in the future.

Stephen J. Brooks

The writer is president of the Chamber of Marine Commerce and president of the Maritime Industrial Transportation Alliance.

Baltimore Sun

Commentary: Pollution rules to help Maryland's smog, bay

EPA sets new vehicle emission, fuel standards to take effect 2017

March 03, 2014|
By Tim Wheeler

New federal auto emission and fuel standards announced Monday should help clear Maryland's summer smog and even aid the cleanup of the Chesapeake Bay, according to state environmental officials. The U.S. Environmental Protection Agency said the "Tier 3" rules it finalized limiting tailpipe emissions and sulfur in gasoline should reduce harmful pollution, prevent thousands of illnesses and premature deaths and improve the mileage of cars and trucks. Robert M. Summers, Maryland's environment secretary, said reducing vehicle emissions should mean healthier air to breathe in the state "for generations to come." "These actions will also provide a significant benefit to the Chesapeake Bay, as approximately one-third of its nitrogen issues are caused by air pollution," Summers added, in a statement released by EPA. George S. Tad Aburn, chief of air management for the state Department of the Environment, said reducing the sulfur content in gasoline should help ease the sate's smog. Less sulfur in fuel will enable vehicles' catalytic converters to work better, he explained, so they'll remove more nitrogen oxides from exhaust that go into forming ground-level ozone. By tightening vehicle emissions nationwide, EPA also will help Maryland because Virginia and other neighboring states do not now require their new vehicles to meet pollution standards set by California, as Maryland does. With as much as 70 percent of Maryland's smog blowing in from out of state, reductions elsewhere should reduce the amount reaching Marylanders, Aburn said. He called EPA's action a "huge deal" for Maryland.

Charleston Gazette

House Finance Committee approves weaker chemical tank bil

By Ken Ward Jr.

CHARLESTON, W.Va. -- Members of a fifth legislative committee Monday night approved legislation intended to protect West Virginia's drinking water, but not before approving amendments that weakened the latest version of the bill.

The House Finance Committee eliminated a provision to require a long-term state study of the potential health impacts of the Jan. 9 chemical spill that contaminated the Elk River water system that serves 300,000 residents across nine counties.

Committee members also stripped the bill (SB373) of language mandating new "early warning" spill sensors for West Virginia American Water's Elk River plant. They also removed a requirement for tougher permitting of water pollution sources located near drinking water supplies.

The bill now moves to the House floor, where it could be up for amendments as early as Wednesday. House members have substantially rewritten the measure since the Senate passed its version Jan. 28.

Lawmakers now face a deadline of midnight Saturday -- the end of their regular, 60-day session -- to reach agreement on final language to send to Gov. Earl Ray Tomblin.

During an appearance on the statewide radio show "Talkline," Monday morning, House Judiciary Chairman Tim Manchin, D-Marion, said he saw no problems getting the legislation finalized.

"I will be shocked if it isn't," Manchin said.

Manchin, though, had also predicted the Finance Committee, the third House committee to review the measure, would make few changes from the version that emerged from his committee early Monday morning.

"I think we've found the sweet spot," Manchin said. "This bill has a lot in it."

Finance Committee members, though, narrowly voted to remove a medical monitoring requirement that had been added in the Judiciary panel's meeting.

The Judiciary language mandated the state Bureau for Public Health perform a long-term medical monitoring study related to the spill. Details of the study were left up to the bureau to decide, first through emergency rules and then through legislative rules that lawmakers will get to review.

So far, the bureau and the federal Centers for Disease Control have planned only a review of hospital charts for those who sought medical treatment after the spill, and a small door-to-door survey of area residents about the spill's impacts on their families.

While unclear in scope and cost, a study of the type proposed by House Judiciary would simply follow some number of the population exposed to the spill chemical to try to determine how they might have been impacted. Some lawmakers said such medical monitoring could be obtained through litigation, but the outcome of such suits are far from certain and could be years down the road.

Lawmakers removed the requirement after Public Health Commissioner Letitia Tierney, while supporting such a study, said she didn't know yet exactly what would be studied, how long it could take, or what it might cost.

Tierney said funding would likely be available from a variety of federal sources, and said it was too soon in the process to detail the exact contours of such a study. Tierney added, though, that the time is now to carefully move ahead with such work.

"We have one chance to get this right," Tierney said. "We want to do this with great thought and

great care."

But Delegate Marty Gearheart, R-Mercer, warned that the medical monitoring language could open the state budget "up to an almost unlimited liability."

Finance Committee members also went along with an amendment from Delegate Kevin Craig, D-Cabell, to remove a requirement that any pollution sources inside "zones of critical concern" near drinking water intakes "individual permits" that undergo more thorough reviews by the state Department of Environmental Protection.

And, the committee took two actions regarding language for more aggressive "early warning" monitoring to detect spills that could impact drinking water.

First, the panel rejected an amendment that expanded a requirement for such monitoring from only the West Virginia American plant on the Elk River to all utilities statewide. Then, committee members removed the language requiring the additional monitoring by West Virginia American at its Elk River plant.

Finance Committee members were working off yet another draft of the legislation, first proposed by Tomblin 11 days after the spill at Freedom Industries, following an industry-only meeting organized by the governor's staff.

Finance staffers gave lawmakers their latest version at the start of a Monday meeting, hours after a previous new version of the bill had emerged that morning from the Judiciary Committee. Judiciary Committee members had rewritten parts of the bill in a marathon session that began Sunday afternoon and ended after 1:30 a.m. Monday, as an ice storm was moving into the Kanawha Valley.

The bill had already been through reviews by both the Natural Resources and Judiciary committees in the Senate.

The bill establishes a variety of new requirements for DHHR and for the state Department of Environmental Protection, forcing agencies to begin using information that was -- in most cases -- already available to them to plan better protections for drinking water supplies.

DEP would have to inventory chemical storage tanks around the state, and write new safety standards and begin new periodic inspections. Water utilities would have to complete new plans spelling out how they would protect drinking water supplies, and conduct studies of potential alternate supplies or backup water supply storage.

The Judiciary Committee voted down an amendment to require West Virginia American Water to add a back-up intake at its regional facility along the Elk River, where the Jan. 9 Freedom Industries spill of Crude MCHM occurred.

Judiciary members also expanded the bill's provisions to allow some information about potential threats to public water systems to be kept confidential by companies and government officials.

Current federal law requires the state law to make public chemical inventory lists that companies file every year with the State Emergency Response Commission. But, that federal law and its companion state rules, allow companies to keep confidential the exact location of chemical storage. The new bill expands that, allowing companies to seek -- and agencies to approve -- withholding from the public "any of the submitted information" if "good cause is found ... for reasons of security or other legitimate public interest concern."

Pat McGinley, who teaches environmental law and public records law at the West Virginia University College of Law, said the current bill "is far too broad" in allowing information about potential threats to water supplies to be kept confidential. McGinley noted that the state's Freedom of Information Act already contains provisions allowing certain information to be kept confidential for homeland security purposes.

"This is yet another effort to water down the broad public right of access to government regulation originally granted by the FOIA," McGinley said. "People who live downstream from chemical storage tanks should be entitled to know what chemicals are located near their water supply."

Before beginning their amendments, Finance committee members picked away at the potential costs of the bill, noting among other things that estimates of those costs for both DEP and DHHR have not been updated since "fiscal notes" were issued in conjunction with a Senate version of the legislation.

DEP Secretary Randy Huffman said his agency had initially put its costs at about $1 million, and that the money would come from a fee to be collected from the owners and operators of chemical tanks regulated by the bill. Under the current legislation, details of the fee are left to DEP to put together during rulemaking.

"There will be additional staff required," Huffman said. "We will be processing permits and conducting inspections we aren't doing now."

Regarding the Judiciary Committee's language for additional monitoring at the West Virginia American Water plant, Delegate Nancy Guthrie, D-Kanawha, recalled that lawmakers heard testimony that equipment alone for that might cost only $150,000 -- an amount she said "wasn't draconian."

But Laura Jordan, a spokeswoman for West Virginia American Water, told committee members the language in the bill is "simply impractical and unfeasible for any water system to do, because of the costs."

Charleston Gazette

Editorial: Tomblin's water pollution rhetoric embarrassing

Gov. Earl Ray Tomblin recently met with U.S. Environmental Protection Agency Administrator Gina McCarthy. What do you think was on his mind?

According to a news release from the governor's office, the governor gave McCarthy an update on the state's remediation efforts at the Freedom Industries site and shared some platitudes about how grateful he is for help from the EPA.

So grateful, apparently, he then went on to reiterate the tired anti-regulatory rhetoric that West Virginians can recite by heart:

"We understand the importance of environmental stewardship and are committed to preserving our state's beauty for generations to enjoy," Gov. Tomblin said. "We also understand the importance of a hard day's work, but up to this point, I believe there has not been sufficient consideration of the real life adverse consequences of economically unfeasible greenhouse gas regulations on West Virginia and many other states. An unreasonable regulatory structure could destabilize our once reliable power grid, increase energy costs to vulnerable ratepayers, further burden industrial employers, and devastate coal mining families and communities."

An unreasonable regulatory structure?

Heaven forbid what Tomblin considers a reasonable regulatory structure. One that fails to safeguard the drinking water for 300,000 people? One that allows black coal slurry to spill into streams? One that allows miners to be crushed to death?

Tomblin's comments were part of an offer to help the EPA craft greenhouse gas emissions for existing power plants -- rules that would be palatable to the coal industry. Tomblin's DEP Secretary Randy Huffman says the offer was an attempt to get away from the typical rhetoric from West Virginia officials, who like to deny that climate change is happening, that human activity is causing it and that emission reductions are needed.

If that's so, you really can't tell it from the governor's words.

West Virginians need their elected leaders, conducting the people's business in their name, to protect the air, water and land for future generations, so there will be an economy here now and long after the coal is played out.

Yet, Gov. Tomblin, following in the footsteps of former Gov. Joe Manchin, seems to embrace this false choice -- that West Virginians can have jobs or clean air and water, but not both.

While offering "help" on greenhouse gas emission standards, West Virginia continues to fight the EPA on reducing mountaintop removal pollution. The EPA wants to enforce the federal Clean Water Act. West Virginia sued in court. EPA lost and is now appealing. West Virginia,

along with Kentucky and industry groups, continue to oppose it.

This, in a state capital where a significant number of the governor's constituents are still wary of drinking the tap water. In a state where significant damage has been done to drinking water supplies in rural areas for generations.

What an embarrassment.

Tomblin, like many before him, seems to believe that environmental protection is OK, as long as it doesn't actually interfere with anyone's polluting convenience. So, what kind of greenhouse gas emission limits could the EPA expect him to support?

Pittsburgh Tribune-Review

Clearfield County residents' stand against biosolids pays off

By Chris Togneri

Published: Friday, Feb. 28, 2014, 10:55 p.m.

Clearfield County residents got their wish, at least for now, when state officials agreed on Friday to stop spreading biosolids, or treated sewage sludge, on game lands near their homes.

"We feel really good," said Allison Gould, who was among Bell Township residents who met with a state Game Commission official at her home. "They're going to stop; they're not going to spread here anymore.

"But this is not over," she said. "This is a national problem, (and) I will always let people know how I feel about biosolids."

The meeting happened six days after about 100 angry residents confronted state officials at a town meeting in Mahaffey. They were angry with the Game Commission's decision to spread biosolids at two sites on State Game Lands No. 87 — among hundreds of sites statewide approved for such spreading.

Residents complained that the sludge stinks and makes them ill.

Spreading began in the fall and was set to resume in the spring. But Colleen Shannon, the commission's North-Central Region land management officer, told residents that the project will not continue.

"There were no hard promises made ... but at this point in time, I can't see any reason to go in

and do any more spreading," said Cliff Guindon, North-Central Region land management supervisor.

Guindon did not rule out future spreading projects on State Game Lands No. 87.

Statewide, biosolids are commonly spread on agricultural and game lands, officials said.

There are 700 sites statewide approved for biosolids spreading, said Daniel Spadoni, spokesman for the Department of Environmental Protection. Over the past 20 years, more than 1,500 such sites have been approved, officials said.

Not all sites are active, but DEP officials said they do not track where and when biosolids are spread.

"The only way, currently, to get an accurate idea of the sites in Pennsylvania that were used during a particular period of time is to go to each regional office and compile annual report data by scheduling a file review with the regional office," DEP spokeswoman Lisa Kasianowitz wrote in an email.

For the Clearfield County project, the Game Commission issued special use permits to WeCare Organics, a waste management company based in Jordan, N.Y., to spread sludge on about 50 acres, records show. WeCare planned to finish about 8.5 acres of spreading in spring.

WeCare President Jeffrey LeBlanc did not respond to emails or phone calls seeking comment.

Michael Nicholson, WeCare's senior vice president, wrote in an email on Tuesday that a company official would respond to emailed questions from the Tribune-Review. On Friday, he said the answers were not ready.

"I assure you, we are taking (this) very seriously and want to provide a detailed response," he wrote.

Gould, who said she was hospitalized with bronchial spasms on the day spreading began near her home, said she and others are working with anti-sludge advocates nationwide.

"No matter what the DEP, the EPA or WeCare says to us, we will never, ever feel biosolids are safe," she said.

Supporters say the sludge contains organic materials that promote vegetation growth in otherwise barren areas. Critics worry about long-term health issues because biosolids can contain heavy metals and pathogens.

"We don't think they should be spreading this stuff anywhere," said Dawn Smith, who attended the meetings. "This stuff is not healthy."

WeCare does not pay the state to spread sludge, officials said. Instead, when spreading on game

lands, officials ask the waste management company to agree to conditions aimed at improving the site.

Under WeCare's permit, the company was contractually required to follow 21 conditions. Among them, WeCare must spread a seed mixture, remove rocks and debris from seeded areas and help remove invasive species.

WeCare agreed to the conditions "in lieu of an annual rental fee and a per ton tipping fee," the permits read.

Pittsburgh Tribune-Review

Chevron finishes installing new wellheads at Greene County explosion site

Chevron over the weekend finished installing new wellheads at a Greene County site but continues to investigate what caused a recent explosion and subsequent days-long fire that killed a worker.

Workers for the company and Wild Well Control Inc. of Houston installed a shutoff valve and new head on a third well at the Lanco site in Dunkard. Crews previously capped two other wells on the site that ignited on Feb. 11 and killed Ian McKee, 27, of Warren, Pa. He worked as a field service technician for Cameron International, a subcontractor working at the Chevron gas well site.

Chevron officials said Monday they are still working with the state Department of Environmental Protection and other regulatory agencies to determine was caused the incident.

Though the three wells have been capped, Chevron said it plans over the next several weeks to install plugs about 8,000 feet below the surface as an additional layer of protection.

Philadelphia Inquirer

Blog: Salt job: What are road treatments doing to our water?

By Sandy Bauers, *Inquirer GreenSpace Columnist*
Posted: Monday, March 3, 2014, 5:34 PM

Even before this big storm, PennDOT's southeastern office had surpassed its record.

So far this year, salt trucks have spread 159,450 tons of salt on highways in the five-county area.

The previous record – for the winter of 2009-2010 – was 142,450 tons, spokesman Charles Metzer told me.

This will be the third time in the past five years that PennDOT has used more than 100,000 tons in this region.

Budgetary conniptions aside -- and there are plenty -- what's it doing to our waterways?

They're becomming increasingly salty, it turns out. I wrote about this in 2010, and I'll copy the story below.

Meanwhile, the Philadelphia Water Department, with its myriad sensors, keeps an eye on the water chemistry, and spokeswoman Joanne Dahme reports that "we have seen elevated levels of chloride in the Schuylkill over the past month as a result of snow melt."

Nothing requiring any action on the water department's part, however. "All water and wastewater treatment operations are normal," she said, adding that "we did share this info" with the state Department of Environmental Protection "as an fyi to keep them up to date on water quality trends that we are seeing."

The Sierra Club of New Jersey earlier today put out a statement pointing out that "we are seeing so many potholes this year since salt eats up the pavement in the roads."

The environmental group also is "concerned that this salt snow mixture is being dumped in park, grass fields, and melting into the rivers since it has nowhere else to go. This will have environmental impacts, but will also lead to the killing of plants and damage to benches or other facilities in our parks."

“Because of the highly developed nature of New Jersey with so many important water supply intakes in these develop areas the over use of salt can have direct impacts on public health especially people with high blood pressure and autoimmune deficiency. Salt not only is a threat to public health, but to the environment and ecosystems of the Rivers it is being dumped into,” said Sierra's Jeff Tittel.

* * * * *

Here's my earlier story, from Dec. 29, 2010, which explains some of the issues and findings in more detail:

The thousands of tons of salt that made roads passable this week have not reached their final destination, nor had their final effect. As the snow melts, the salt will be flowing into storm drains and beyond, adding to the steady salting of the region's waterways.

Over the last 60 years - pretty much since regular use of sodium chloride on roads began - the annual average sodium concentration in the Delaware River has nearly tripled and chloride has increased fivefold, researchers have found.

At times, sodium concentrations at the Philadelphia Water Department's intakes already exceed American Heart Association and U.S. Environmental Protection Agency "guidance levels."

Because the department, like many others, can switch intakes and mix in water with lower salinity, the final product contains lower levels, said Chris Crockett, director of planning and research.

If current trends continue in the coming decades, however, experts say that aquatic life will suffer and water supplies could be threatened. Sodium is a concern for people with medical conditions such as hypertension.

"This cannot go on indefinitely. It is not sustainable," said Jonathan Husch, chair of Rider University's department of geological, environmental and marine sciences, which has been researching salt issues locally.

Just since Sunday, PennDot has spread 8,000 tons of salt in Southeastern Pennsylvania. The City of Philadelphia put out an additional 7,000 tons. Hundreds of smaller municipalities, thousands of businesses, and millions of residents tossed more.

Unlike the pollutants that are typically removed by water-treatment plants, getting the salt out can require entirely different technologies such as reverse osmosis.

Eventually, said Crockett, governments may need to decide on which end of the process to spend precious public funds: more environmentally friendly deicers for the roads or new treatments for the water. Both cost more.

Officials - especially those in more northern areas - have been aware of the problems with salt for more than a decade. But it's only been in the last few years, with increased public focus on the environment, that significant innovations have emerged.

Highway crews in both Pennsylvania and New Jersey, for example, have been spraying ahead of time with a salty brine solution. The liquid - look for the stripes down the lanes before a storm - stays on a bare road better than salt, it delays the formation of ice and, when salt is spread later, it speeds melting.

Spreaders have been reengineered and recalibrated to reduce overshoot and to keep the salt from bouncing onto the shoulder.

In some cases, workers can clean the same amount of snow with half the salt that they once used.

"We are extremely aware of the situation with salt," said PennDot's Nick Martino, who is in charge of road maintenance for the five southeastern counties.

Officials employ elaborate calculations to project nuances of temperature and precipitation as storms approach and intensify.

This year, PennDot is piloting a sophisticated storm-fighting computer system - with touch screens in the trucks - that helped Indiana reduce salt use by a third. Using radar, it forecasts road conditions and fine-tunes how much salt should be spread.

Manufacturers are coming out with new deicers, including one made from beet juice. Transportation officials in Maryland, New York, and Chicago are trying it.

Marketed under brand names such as GeoMelt and IceBite, it is less corrosive for bridges and cars - another issue surrounding salt. Also unlike salt, it doesn't cause potholes.

This, like many other salt "alternatives," is really just an additive. It helps a brine solution stay put and enhances the melting effect.

But some have complained that the beet juice stains and stinks like rotting vegetables. It has unwanted environmental effects, too. Bacteria that break down the organic chemical consume oxygen - and low oxygen levels are another problem in many urban streams.

And a Madison, Wis., study found that substituting the beet product for the salt brine it used in 2008-09 would have cost more than 10 times as much.

So good old road salt is still the cheapest thing going and the primary deicer. Although anything that melts in water will lower its freezing temperature, no other broadscale substitutes have taken hold.

"I don't know that salt will ever go away, given its effectiveness and the price," said William Hoffman, a Nevada transportation official who chairs an American Association of State Highway and Transportation Officials snow and ice task force.

Nationally, road-salt use took hold after World War II, when new prosperity led to more cars, more paved roads, and, over the years, higher expectations.

"Now it snows, and we want clear roads the next day," said Rider's Husch.

In 1940, an estimated 149,000 tons of rock salt were sold in the United States for highway use.

Now, we're up to about 18 million tons in a bad winter.

PennDot statistics for the southeastern region show that in the 1980s, annual salt use never topped 43,000 tons. But in the last decade, half the winters have led to the use of 80,000 tons or more. Last year was a record-breaker - 142,738 tons.

Meanwhile, study after study has found that from the Great Lakes to mountain streams, salinity in water bodies has been rising. In isolated cases, municipal water wells have had to be shut down because of contamination from road salt.

Wetlands have been affected. Salt-tolerant species have become more common along highways with high salt use.

In 2009, a U.S. Geological Survey study found that 40 percent of streams in and around Northern U.S. cities underlain by certain kinds of aquifers - Philadelphia is not among them - had salt levels high enough to damage aquatic life.

Earlier this year, USGS researcher Steve Corsi and others collected water fleas and flathead minnows in streams around Milwaukee. They found that during winter deicing, water in more than half the streams sampled was toxic to the organisms or affected their growth and reproduction.

Eventually, salt can change not only a stream's plants and aquatic organisms, but its entire ecosystem, said Philadelphia's Crockett.

"You go from things that are not tolerant of a salty environment to things that can handle that kind of shock."

Crocket suspects that, from an ecosystem standpoint, the Schuylkill, which has seen steep salt increases, is headed that way. "I think, in my lifetime, we'll see the Schuylkill hit its carrying capacity," he said.

For more than 10 years, Hongbing Sun, a professor of geological and environmental sciences at Rider University, has led studies looking at salt in the Delaware River.

They concluded that the primary source was road salt.

Sun said that levels of sodium and chloride traced to road salt spike not only after a winter storm, as might be expected, but also in summer.

So now, his team is studying how salt accumulates in soil and how long it stays there.

"The bottom line is that . . . you can't spread thousands of gallons of chemicals on the environment and not have them create some sort of impact," said Corsi, the USGS researcher.

But Corsi, who lives in Wisconsin, grasps the dichotomy.

He figures he has a high tolerance for snowy roads because he knows the problems that deicing can cause.

Then again, he said, "I have two kids in the backseat of my car, and I want them to be safe."
